

BULGARIEN: VACHA CASCADE JOINT IMPLEMENTATION PROJEKT

Kyoto Mechanism:	Joint Implementation
Project Category (UNFCCC):	Energy industries – Renewable Sources
Location:	Bulgaria/District Smolyan
Emission Reductions purchased:	1,005,552 t CO _{2e}

The project partner is the **Natsionalna Elektricheska Kompania EAD (NEK)**. The total project costs are app. **EUR 200 million**. The project was validated by Det Norske Veritas (DNV).

The Vacha Cascade Joint Implementation Project consists of two main activities:

- **Construction of Tsankov Kamak Hydro Power Plant (HPP)**



This activity comprises the construction of the Tsankov Kamak Dam Reservoir with a net volume of 80 mill. m³ and the Tsankov Kamak Power Station with an installed power capacity of **80 MW** (2 x 40MW) generating 198 GWh/a (assuming an annual utilisation of 2,475 hours). The Tsankov Kamak Hydro Power Plant will be part of the Dospat-Vacha Cascade, which up to now includes 3 dams and four hydro power plants. The additional regulating volume in the scheme of the Vacha Cascade will allow an optimisation of the water flows from the reservoir to the existing HPPs in the Cascade.

- **Rehabilitation of the HPPs Teshel, Devin, Orpheus, Krichim**

The rehabilitation of the four HPPs will improve their efficiency and power production by 16 GWh/a. An overall rehabilitation is foreseen for the Orpheus and Krichim HPPs, while a refurbishment is foreseen for Teshel HPP and Devin HPPs comprising mechanical and electrical parts.

The baseline study applies the “marginal plant only” or “least cost dispatch analysis” baseline methodology. The results for the period 2008-2012 show that 3 power plants will reduce their electricity generation as marginal power plants after commissioning



of the Vacha Cascade JI Project resulting in emission reductions of app. **1,139,997 t CO_{2e}** over the years 2008-2012.